

Appl. No. : Not Yet Assigned
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AMENDMENTS TO THE CLAIMS

1. (Currently Amended) ~~Method-A method~~ for producing recombinant RNase A in *E. coli* characterized in that comprising expressing a DNA sequence is used, which codes for a RNase A of bovine origin and which is adapted to the codon usage in *E. coli*.
2. (Currently Amended) ~~Method according to~~The method of claim 1, wherein the DNA sequence is adapted to the codon usage of *E. coli* K12.
3. (Currently Amended) ~~Method according to~~The method of claim 1-~~or~~2, wherein the DNA sequence is adapted to the most frequently used codon in *E. coli*.
4. (Currently Amended) ~~Method according to any of claims 1 to 3~~The method of claim 1, wherein the DNA sequence corresponds to the DNA sequence given in SEQ ID No. 1, or to a sequence, which is identical to at least 90% identical to the DNA sequence given in SEQ ID No. 1.
5. (Currently Amended) ~~Method according to~~The method of claim 1-~~or~~2, wherein the DNA sequence is adapted ~~regard being had to~~ according to the natural frequency of individual codons.
6. (Currently Amended) ~~Method according to any of claims 1, 2 or 5~~The method of claim 1, wherein the DNA sequence corresponds to the DNA sequence given in SEQ ID No. 2, or to a sequence, which is identical to at least 90% identical to the DNA sequence given in SEQ ID No. 2.
7. (Currently Amended) ~~Method according to any of the preceding claims~~The method of claim 1, wherein the RNase A is expressed in fusion with a signal peptide, which directs the transport into the periplasmic space.
8. (Currently Amended) ~~Method according to~~The method of claim 7, wherein the signal peptide is the signal peptide of the alkaline phosphatase (phoA).
9. (Currently Amended) ~~Method according to any of the preceding claims~~The method of claim 1, wherein the expression of the RNase A is under the control of an inducible promoter.
10. (Currently Amended) ~~Method according to~~The method of claim 9, wherein the promoter is a heat-inducible promoter.

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11. (Currently Amended) Method according to claim 9 or 10 The method of claim 9, wherein the induction of the gene expression takes place at the end of the exponential growth phase.

12. (Currently Amended) Method according to any of claims 9 to 11 The method of claim 9, wherein the induction of the gene expression takes place within a period of 14 to 20 hours.

13. (Currently Amended) Method according to any of the preceding claims The method of claim 1, wherein the RNase A forms inclusion bodies.

14. (Currently Amended) Method according to any of the preceding claims The method of claim 1, wherein the method further comprises comprising recovery of recovering the RNase A from *E. coli* cells or the culture medium, respectively, optionally by means of solubilisation and refolding of the RNase A.

15. (Currently Amended) Method according to The method of claim 14, wherein the recovering step comprises solubilizing and refolding the RNase A, and guanidine HCl is used as a denaturing agent for solubilisation.

16. (Currently Amended) Method according to The method of claim 14 or 15, wherein the recovering step comprises solubilizing and refolding the RNase A, and reduced and oxidised glutathione is used for refolding.

17. (Currently Amended) Method according to any of the preceding claims The method of claim 1, wherein the method further comprises comprising chromatographic purification of purifying the RNase A chromatographically.

18. (Currently Amended) Method according to The method of claim 17, wherein said chromatographic purifying step is performed by a cation exchange chromatography is performed.

19. (Currently Amended) Method according to any of the preceding claims The method of claim 1, wherein more than 100 mg RNase A per litre culture medium are yielded.

20. (Currently Amended) Method according to any of the preceding claims The method of claim 1, wherein more than 3 mg RNase A per gram wet biomass are yielded.

21. (Currently Amended) An *E. coli* cell culture, which contains comprising at least 0,202 g RNase A per litre of culture medium.

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22. (Currently Amended) A Nucleic-nucleic acid molecule, which containscomprising at the nucleic acid sequence according to SEQ ID No. 1.

23. (Currently Amended) Nucleic A nucleic acid molecule, which contains comprising the nucleic acid sequence of according to SEQ ID No. 2.

24. (Currently Amended) Nucleic A nucleic acid molecule, which comprisescomprising the following components in an order from 5' to 3':

- a promoter being active in *E. coli*;
- optionally a sequence coding for the signal peptide of in terms of claim 7 or 8;
and,
- at the nucleic acid sequence according to SEQ ID No. 1 or 2.

25. (Currently Amended) Use of a nucleic acid sequence according to SEQ ID No. 1 or 2 for the production of A method of producing recombinant RNase A comprising expressing the nucleic acid sequence of SEQ ID No. 1 or 2.

26. (Canceled) Use of the RNase A according to claim 21 in the purification of DNA and proteins.

27. (New) A method of purifying DNA or proteins comprising degrading RNA using the RNase A produced by the method of claim 1.